

Family Synanceidae

1583

Body robust, more or less chunky, tapering but moderately posteriorly, where little compressed.

Head large to enormous, depressed, with large crests, ridges or beaks and cavities, armature little developed.

Front nostril tubular.

Bony suborbital stay developed. Gill openings large, separated by broad, fleshy isthmus. Branchiostegals 7. No scales, skin often carunculate or papillate, and often with fringes of filaments, skinny flaps or cavi. Fins well developed. Single long dorsal, spiny fin with greatly longer base than rayed fin, subequally

1584

high. Anal small, like soft dorsal, with several small graduated spines in front. Caudal free, rounded. Pectoral usually large, with broad base, broadly rounded. Ventral with spine and 5 rays.

Fishes of grotesque appearance, with thick bodies and head, which greatly roughened with ridges and cavities.

Analysis of Genera

1545

- a. Head very large, 3 or less in body without caudal.
- b. Cheek with deep pit; suborbital ridge protruded laterally as shelf, not radiate striate.
- c. Pectoral very large, length from base of lower front ray to tip of uppermost longest ray $2\frac{2}{5}$ in fish without caudal; bones of head spineless.

Synanceichthys.

- c.² Pectoral small, its length from base of lower front ray to tip of uppermost longest ray 3 in fish without caudal; bones of head with blunt spines.

Synanceja.

- b.² Cheek without deep pit; sub-orbital stay large, with radiate striae; pectoral large.

- d. Upper profile of head nearly straight; skin with flaps.

Erosa.

1586

d.² Upper profile of head convex;
skin papillated. Dampiera.

a.² Head smaller, 4 or less in
body without caudal.

e.¹ Anal spines 3. Leptosynancia.

e.² No anal spine. Trachicephalus.

E. s. h. m., one example. Iloilo.
April 21, 1929. Lieut. H. C. Kellers.
Length 39 mm.

E. s. h. m., three examples. Iloilo.
April 24, 1929. Lieut. H. C. Kellers.
Length 32 to 41 mm.

E. s. h. m., three examples. Iloilo.
May 7, 1929. Lieut. H. C. Kellers.
Length 31 to 44 mm.

E. s. h. m., one example. Iloilo.
May 9, 1929. Lieut. H. C. Kellers.
Length 45 mm.

E. s. h. m., two examples. Iloilo.
1929. Lieut. H. C. Kellers. Length
31 to 44 mm.

Genus Synanceichthys Bleeker

Synanceichthys Bleeker, Ned.
Tijds. Dierk., vol. 1, p. 234, 1863.
(Type Synanceja verrucosa
Schneider, monotypic. Name only.)

Emmydrichthys Jordan and
Rutter, Proc. Cal. Acad. Sci.,
ser. 2, vol. 6, pp. 221, 562 $\frac{1}{2}$, 1896.
(Type Emmydrichthys vulcanus
Jordan and Rutter, monotypic.)

Differs from Synanceja chiefly
in the bones of the head without
blunt spines, ^{and} the very large
pectoral reaching well back
on the tail.

1588

Synanceja ^{ichthys} verrucosa (Schneider)

Synanceja verrucosa Schneider,
Syst. Ichth. Bloch, p. 195, ~~1801~~
~~1801~~ 1801 (type locality. India).

— Cuvier, Règne Animal, vol. 2, p.
286, 1817. (reference).

— Klunzinger, Verh. zool. bot. Ges.
Wien, vol. 20, p. 811, 1870 (Red Sea).

1589

— Jordan and Seale, Bull. Bur.
Fisher., vol. 25, p. 379, 1905 (1906)
(Apia). — Jordan and Dickerson,
Proc. U. S. Nat. Mus., vol. 34, p. 616,
1908 (Suva). — Nichols, Amer.
Mus. Novit., N. Y., no. 94, p. 3,
Oct. 19, 1923 (Mangareva).

— Fowler, Bishop Mus. Bull., no.
22, p. 11, 1925 (Guam), p. 33
(Samoa); Mem. Bishop Mus.,
vol. 10, p. 297, 1928 (Apia, Polynesia,
Roi Roi, New Guinea, Jaluit,
types of Synanceia theresites and
Deleaster daector, Tubuai, Guam,
"Sandwich Islands", Society
Islands, Ebon Island, Marshalls,
Kusaie).

- Rüppell, Neue Wirbelth. Fische, p. 109, 1835 (Gonfuda). 1590
Synanceia verrucosa Schneider,
Syst. Ichth. Bloch, pl. 45, 1801. —
Günther, Cat. Fish. Brit. Mus., vol. 2, p. 146, 1860 (Mauritius).
- Schmeltz, Cat. Mus. Godeffroy, no.
4, p. 16, 1869 (Viti Islands). —
Günther, Journ. Mus. Godeffroy,
vols. 2-3, pts. 5-6, p. 84, fig., 1874
(Society Islands). — Schmeltz,
Cat. Mus. Godeffroy, no. 5, p. 25,
1874 (Samoa, Viti, Tonga, Tahiti).
- Bleeker, Nat. Verh. Holland.
Maats., Haarlem, ser. 3, vol. 2, no.
3, p. 15, pl. 2, fig. 2, 1874 (Batu,
Cocos-Keeling, Bintang, Java,
Celebes, Timor, Halmaheira,
Ceram, Amboina, Banda, Waigiu,
New Guinea). — Günther, Rep.
Voy. Challenger, vol. 1, pt. 6, p. 34,
1880 (Ovalau, Fiji). — Vaillant,
Bull. Soc. Philom. Paris, ser. 7,
vol. 11, p. 58, 1886-87 (Tahiti). —

1591

Steindachner, Sitzs. Ber. Akad.
Wiss. Wien, Math.-naturw. Kl.,
vol. 115, pt. 1, p. 1407, 1906 (Lepolu).
— Seale, Occas. Pap. Bishop Mus.,
vol. 4, no. 1, p. 81, 1906 (Tubuai,
Austral Islands). — Kendall
and Goldsbrough, Mem. Mus.
Comp. Zool., vol. 26, p. 316, 1911
(Jaluit, Marshalls). — Weber,
Siboga Exped., vol. 65, Fische, p. 504,
1913 (Karakelang; Saleyer). —
Herre, Fishes Philippine Exped.,
p. 66, 1931 (1934) (Atimonan;
Dumaguete; Bilatan, Sulu
Islands; Sitanki).

1592

Synancia verrucosa Günther,
Cruise of Curacoa, Brechley,
p. 409, 1873 (Solomon). — Peters,
Monatsh. Akad. Wiss. Berlin,
p. 834, 1876 (1877) (New Hannover).
— Boulenger, Ann. Mag. Nat.
Hist., London, ser. 6, vol. 20, p.
373, 1897 (Rotuma). — Garman,
Bull. Mus. Comp. Zool., vol. 39,
p. 232, 1903 (Suva).

Synanceichthys verrucosus Bleeker,
Verslag. Kon. Akad. Wet. Amsterdam,
ser. 2, vol. 2, p. 291, 1868 (Rio, Bintang).
Ned. Tijds. Dierk., vol. 1, p. 234, 1863
(Gernate), p. 264 (Atapupu,
Timor).

Scorpaena bicirrata Lacépède,
Hist. Nat. Poiss., vol. 3, pp. 258,
270, ~~pl. 11, fig. 3~~ 1798 (no type locality;
on Commerson); vol. 2, pl. 11, fig. 3.

Scorpaena brachio Lacépède, op. cit.,
pp. 259, 272, pl. 12, fig. 1, 1798 (type
locality, not given; on Commerson).

Synanceia brachio Cuvier, Hist. Nat.
Poiss., vol. 3, p. 328, 1829 (Waigiu,
Strang Island, Borabora). —
Valenciennes, Règne Animal, Cuvier,
éd. ill., pl. 25, fig. 3, 1839.

— Bleeker, Verh. Batavia. Genoot.
(Perc.), vol. 22, p. 9, 1849 (Banda, heira);
Nat. Tijds. Ned. Indie, vol. 2, p.
226, 1851 (Banda, heira); vol. 3, p.
236 (Ternate), p. 237 (Wahai); vol.
4, p. 132, 1853 (Ternate); vol. 5,
p. 319, 1853 (Amboina); vol. 6, p.

1594
457, 1854 (Amboina); vol. 8, p.
168, 1855 (Cocos-Keeling), p. 306
(Batoe), p. 445 (Cocos-Keeling);
vol. 9, p. 65, 1855 (Batu), p. 106
(Sabu, Halmaheira); vol. 11, p.
81, 1856 (Malang, Java); Act.
Soc. Sci. Ind. Neerl., vol. 1, no. 3,
p. 31, 1856 (Manado); vol. 1, no. 5,
p. 5, 1856 (Amboina); vol. 3, no. 4,
p. 3, 1857-58 (Manado); Nat.
Tijds. Ned. Indie, vol. 15, p. 458,
1858 (Cocos-Keeling); vol. 16, p. 240,
1858 (Cocos-Keeling); vol. 20, p. 87,
1859-60 (Bintang), p. 202 (Cocos
Keeling).

Scorpaena bicapillata Shaw,
General Zool., vol. 4, pt. 2, p. 273,
1803 (type locality, Indian Sea).

Scorpaena brachiata Shaw, op. cit.,
p. 274.

Emomydrichthys vulcanus Jordan
and Rutter, Proc. Cal. Acad. Sci.,
ser. 2, vol. 6, pp. 221, 562 1/2, pl. 26, 1896
(type locality, Tahiti, Society
Islands). — Jordan and Seale,
Bull. Bur. Fisher., vol. 25, p. 380,
1905 (1906) (copied).

Synanceia thesites Seale, Occas. Pap.
Bishop Mus., vol. 1, no. 3, p. 121, 1900
(type locality, Guam).

Deleaster daector Seale, op. cit., vol. 4,
no. 1, p. 81, fig. 22, 1906 (type locality,
Tahiti).

1596

Depth $2\frac{1}{3}$ to $2\frac{2}{3}$; head $2\frac{1}{8}$ to $2\frac{1}{5}$,
broad as long.
Snout $3\frac{1}{4}$ to $4\frac{1}{5}$ in head from
front end of snout; eye 6 to $7\frac{1}{2}$,
 $1\frac{1}{2}$ to $1\frac{3}{4}$ in snout, 1 to 2 in
interorbital; maxillary expansion
 $1\frac{1}{4}$ to $1\frac{1}{2}$ times eye, length 2 to $2\frac{1}{3}$
in head from front end of snout;
teeth in villiform bands in jaws,
none on palate; interorbital $3\frac{1}{5}$ to
 $3\frac{1}{4}$, very concave, orbits little
elevated. Slight depression on
cheek.

Body and tail with many
variable, often close set cutaneous
excrescences or papillae, often
extending well over fins. Many
filaments on head, often as a
fringe along jaws, and flap
on preorbital. Dorsal with
small scattered filaments.

D. XVIII, 6 or 7, third spine
 $2\frac{3}{4}$ to $2\frac{4}{5}$ in total head length,
first ray $2\frac{1}{5}$ to 3; A. III, 5, third

1597

spine $3\frac{1}{5}$ to $4\frac{2}{3}$, third ray $2\frac{2}{3}$
to $3\frac{3}{4}$; caudal 2, rounded
behind; least depth of caudal
peduncle $3\frac{4}{5}$ to 4; pectoral 1
to $1\frac{1}{5}$, rays I, 16; ventral rays
I, 5, fin $1\frac{1}{2}$ in total head length.

Mottled deep brown to dusky,
fin edges all largely pale, at
least tips of rays. Soft dorsal
and anal with dark waved oblique
bands and dark vertical band on
caudal.

Red Sea, Mauritius, India,
Cocos Keeling, East Indies, Queensland,
Melanesia, Micronesia,
Polynesia, Hawaii?

A. N. S. P., one example. Apia, Samoa.
Bureau of Fisheries. Length 197 mm.

Genus Synanceja Schneider

Synanceja Schneider, Syst. Ichth. Bloch, p. 194, 1801. (Type Scorpaena horrida Linnaeus. Designated as "Type Synanceia horrida Bloch," by Desmarest, Encycl. Hist. Nat. Rept. Poiss., Cherbourg, p. 215, 1874.)

Synanceia Schneider, op. cit., p. xxxvii (in synopsis). (Type Scorpaena horrida Linnaeus.)

Synanchia Swainson, Nat. Hist. Animals, vol. 2, pp. 180, 267 (not p. 268), 1839. (Type Scorpaena horrida Linnaeus.)

Bufichthys Swainson, Nat. Hist. Animals, vol. 2, p. 268, 1839. (Type Scorpaena horrida Linnaeus.)

monotypic.

Synancia Agassiz, Ann. Zool., 1846, Index Univers., p. 358, 1846. (Type Scorpaena horrida Linnaeus.)

(Synancidium J. Müller, Archiv
Naturg., p. 302, 1843. (Type
Scorpaena horrida Linnaeus.
designated by Jordan, Genera
of Fishes, pt. 2, pp. 169, 201,
1919.)

Synancidium Agassiz, op. cit.
(Type Scorpaena horrida
Linnaeus.)

Rofua Whitley, Mem. Queensland
Mus., vol. 10, p. 24, 1930. (Type
Synanceja platyrhynchus
Bleeker, orthotypic.)

Buffichthys Day, Fishes of India,
pt. 1, p. 162, 1875. (Type Scorpaena
horrida Linnaeus.)

1601.

Body elongately ovate in profile, anteriorly subcylindrical, posteriorly compressed. Head very large, broad, depressed. Snout broad, profile nearly horizontal. Eye small, high or elevated in profile, premedian or advanced in head length, lateral in position. Mouth nearly vertical, large, mandible largely protruded. Maxillary vertical, not reaching eye, expanded terminally. Billiform teeth in jaws, present or not on vomer, and not on palatines. Head above irregular with beaks or ridges and cavities or depressions, but without sharp spines. Branchiostegals 7. Air bladder present. Pyloric appendages none to 4. Vertebrae 24, of which 14 caudal. No scales. Skin with papillae or

1602

tubercles, and sometimes with
shiny flaps or filaments.

Dorsals continuous, with 12 or
13 strong spines and soft fin
with 6 to 8 rays. Anal with
3 small spines and 5 rays.
Caudal subtruncate or slightly
rounded. Pectoral large, with
wide base and rays branched.
Ventral moderate or small,
with spine and 5 rays.

Several species of the Indo-
Pacific region. Large, robust
or chunky fishes, with enormous
head and greatly variegated
coloration. They greatly resemble
the appearance of the sea bottom
about coral reefs in which
they dwell. Most are dreaded by
the natives on account of the
dangerous wounds they are able
to inflict by means of the dorsal

1603
spines. Each of these are said to
have a poison bag attached and
be grooved. Severe wounds are
said to occasion fatalities.

Body elongately ovoid, anteriorly
subcylindrical and posteriorly
compressed. Head small, broad,
depressed. Snout nearly horizontal,
broad. Eye small, high, little
premedian, directed upwards.
Mouth vertical, mandible protruded
most its length. Maxillary
vertical, not reaching eye, ex-
panded terminally. Villiform
teeth in jaws and on vomer, none
on palatines or tongue. Preorbital,
postopercle and opercle with
spines. Gill opening with small
rounded superior bristle and
exclusive, but continuous with
posterior one. Scales absent, skin
smooth. Dorsal single, with 16
strong spines and 5 rays. Anal
with 3 spines and 1 ray. Caudal
subtruncate. Pectoral large, base
broad. Ventrals small.

1604

Synanceja horrida (Linnaeus)

Scorpaena horrida Linnaeus, Syst.
Nat., ed. 12, p. 453, 1766 (type
locality, India orientali).
Menschikov, Indy. Zoophyl. Gronov., no. 292, 1781 (Bengal).
— Bloch, Nat. Hist. Mus. Fische,
vol. 3, p. 15, pl. 183, 1787 (East
Indies). — Bonnaterre, Tabl.
Ichth., p. 69, pl. 88, fig. 369, 1788
(East Indies). — Gmelin, Syst.
Ichth. Linn., p. 1217, 1789 (India).
— Walbaum, Artedi Pisc., vol. 3,
p. 378, 1792 (copied). — Forster,
Fauna Indica, p. 14, 1795. —
Blumenbach, Handb. Naturg.,
p. 273, 1799 (reference). —
Lacépède, Hist. Nat. Poiss., vol. 3,
pp. 258, 261, 1802 (no locality);
vol. 1, pl. 17, fig. 2.

Synanceia horrida Schneider,

Syst. Ichth. Bloch, p. XXXVII, 1801
 — Cloquet, Dict. Sci. Nat., vol. 51, p. 441, 1827 (reference). —
 (name in synopsis) — Cuvier,
 Hist. Nat. Poiss., vol. 4, p. 440, nov.
 1829 (Java). — Bleeker, Verh.
 Batavia. Genoot. (Perc.), vol. 22,
 p. 9, 1849 (Pasuruan, Java); Nat.
 Tijds. Ned. Indie, vol. 3, p. 237, 1852
 (Wahai); Verh. Batavia. Genoot.
 (Nat. Ichth. Bengal), vol. 25, p.
 36, 1853 (reference); Nat. Tijds.
 Ned. Indie, vol. 8, p. 392, 1855
 (Amboina); vol. 10, p. 346, 1856
 (Rio, Bintang); vol. 11, p. 418,
 1856 (Muntok, Banka); Act.
 Soc. Sci. Ind. Neerl., vol. 1, no. 5,
 p. 5, 1856 (Amboina); vol. 2, no. 7,
 p. 4, 1857 (Amboina); vol. 3, no. 4,
 p. 3, 1857-58 (Macassar); Nat.
 Tijds. Ned. Indie, vol. 15, p. 242,
 1858 (Singapore); vol. 16, p. 29,

1858 (Amboina); vol. 20, p. 202,
 1859-60 (Biliton); vol. 22, p. 112,
 1860 (Buru); Verslag. Kon. Akad.
 Wet. Amsterdam, ser. 2, vol. 2,
 p. 291, 1868 (Rio, Bintang); Nat.
 Verh. Holland. Maatsch., Haarlem,
 ser. 3, vol. 2, no. 3, p. 12, pl. 1, fig. 1,
 1874 (Sumatra, Singapore,
 Bintang, Banka, Biliton, Java,
 Celebes, Ternate, Buru, Ceram,
 Amboina).

— Meyer, Anal. Soc. Espan. Hist.
 Nat. Madrid, vol. 14, p. 21, 1885
 (Rubi, New Guinea).

1607

— Seale and Bean, Proc. U. S. Nat.
Mus., vol. 33, p. , 1907 (Zamboanga).
— Jordan and Richardson,
Philippine Journ. Sci., vol. , p.
52, 1910 (reference).

— Herre, Fishes Philippine Exped.,
p. 66, 1930 (1931) (Culion; Dumaguete).

Synanceja horrida Schneider,
 Syst. Ichth. Bloch, p. 194, 1801
 (India, Bengal, Japan).
 — 7

— McCulloch, Austral. Mus. Mem.,
 No. 5, pt. 3, p. 392, Nov. 28, 1929
 (reference). — Whitley, Mem.
 Queensland Mus., vol. 10, ^{pt. 1,} p. 24,
~~1930~~. August 28, 1938 (reference).

1609

Synanceja horrida McCulloch,
Austral. Mus. Mag., vol. 2, pt. 5,
p. 159, figs; 1925 (Thursday
Island, Queensland) . —
Kesteven, Rec. Austral. Mus.,
vol. 15, pt. 3, p. 225, figs. 10-15
(skull), 1926. — Tandy, Nat.
Hist. Mag., vol. 2, pt. 2, p. 89,
fig. 11, 1929 (Low Islands,
Queensland) . — Whitley and
Boardman, Austral. Mus.
Mag., vol. 3, p. 369, figs., 1929.

Cynanceja horrida Paradice,
Mart. Rev. Health Inspect.
Assoc. Australia, vol. 4, pt. 3,
p. 45, fig., July 1926 (Torres
Strait).

Bufoichthys horrida Swainson,
Nat. Hist. Animals, vol. 2, p. 268,
1839 (on Lacépède).

Synancidium horridum Müller,
Abhandl. Kon. Preuss. Akad. Wiss.,
Berlin, p. 163, 1844.
— Günther, Cat. Fish. Brit. Mus.,
vol. 2, p. 144, 1860 (Australia,
China, India, St. Helena,
type of Synanceia trichynis). —
Kner, Reise Novara, Fische, p.
119, 1866 (Java). — Day, Fishes of
India, part 1, p. 162, pl. 39, fig. 3,
August 1875.
— Fowler, Mem. Bishop Mus.,
vol. 10, p. 297, 1928 (copied).

— Klunzinger, Sitzs. Ber. Akad. Wiss. Wien, math.-naturw. Kl., vol. 80, pt. 1, p. 367, 1879 (Port Darwin). — Saville-Kent, Great Barrier Reef, pp. 286, 369, pl. 17, fig. 1, 1893 (Cooktown, Queensland).

— Castelnau, Proc. Linn. Soc. New South Wales, vol. 3, p. 351, 1879 (Sydney).

— Waite, Rec. Austral. Mus., vol. 6, p. 74, 1905 (Houtmans Abrolhos, Western Australia).

— Fowler, Mem. Bishop. Mus., vol. 10, p. 10, p. 297, 1928 (copied).

Synanidium horridum ^(~~part~~ not Linn) Günther,

1612

Scorpaena alepidota Bloch, nat. hist.
Aust. Fische, vol. 3, p. 15, 1787.
East Indies.

Synanceia grossa Gray, Illustrat.
Indian Zool., vol. 1, pl. 97, March
1830. Singapore.

Bufilethys grossa Swainson, Nat.
Hist. Animals, vol. 2, p. 268, 1839.
(on Gray).

Synanceia trachynis Richardson,
Ann. Mag. Nat. Hist., London,
ser. 9, p. 385, July 1, 1842. (Type
locality, Port Essington). —
Bleeker, Verh. Akad. Wet.
Amsterdam, vol. 2, p. 8, 1855.

1614

Synanceja trachynis Whitley,
Mem. Queensland Mus., vol. 10, pt.
1, p. 25, August 28, 1930 (Moreton
Bay, Boyne Island, Port Curtis,
Endeavour River, Thursday
Island, Torres Strait in
Queensland; Port Darwin, North
Australia; Port Hedland,
Western Australia); Sci. Rep.
Great Barrier Reef Exped., vol. 4,
p. 306, pl. 4, figs. 1-2, 1932.

Scorpaena monstrosa Gray, Cat.¹⁶¹⁵
Fish. Gronow, p. 117, 1854 (type
locality, Bengal).

Synanceia platyrhynchus

Bleeker, Nat. Verh. Holland.

Maats., Haarlem, ser. 3, vol. 2, no.

3, p. 14, pl. 1, fig. 2, 1874 (type
locality, Amboina?).

Depth $2\frac{2}{5}$; head $2\frac{1}{6}$, width ¹⁶¹⁷
equals length. Snout $3\frac{3}{4}$ in head
from snout tip; eye 8, 3 in snout,
 $1\frac{1}{2}$ in interorbital; maxillary
vertical, expansion twice eye,
length 2 in head from snout tip;
bands of villiform teeth in jaws,
none on palate; interorbital 5,
flattened; deep pit below each
eye on cheek; occiput with deep
and rather broad transverse de-
pression. Bony knob on preorbital,
suborbital stay opposite eye,
and 3 on preopercle.

No scales. Skin with
numerous, large, rather close
set fleshy excrescences on trunk
and tail, and smaller ones on
fins; smaller and less conspicuous
ones on head; lips fringed. Row
 $12 + 1$ smaller excrescences represents
lateral line, axial on side of body.

1618

D. XIII, 7, third spine 3 in total head length, second ray $2\frac{1}{2}$; A. III, 6, third spine $5\frac{3}{4}$, third ray 3; caudal 2, convex behind; depth of caudal peduncle 4; pectoral $1\frac{1}{2}$, rays 15; ventral rays I, 5, fin $1\frac{2}{3}$ in total head length.

Brown, variegated with mauve tints on head above and back. Belly and under surfaces with ^{large} whitish areas. Fins all more or less dark or blackish brown terminally.

India, Malaya, Siam, East Indies, Philippines, China, Japan, Queensland, Northern Territory, Western Australia, New South Wales.

A. N. S. P., one example. Rayong,
Siam. 1935. R. M. de Schauensee
Length 200 mm.

Genus Erosa Swainson

1620

Erosa Swainson, Nat. Hist. Animals,
vol. 2, p. 61, 1839 (Atypic. Type
Synanceia erosa Cuvier, designated
by Jordan and Starks, Proc. U.
S. Nat. Mus., vol. 27, p. 156, 1904.)
(Erosia 1857 not involved.)
Synanchia Swainson, op. cit., p.
268. (Type Synanchia erosa
Cuvier, monotypic.)

1401

A 1128. Malayan Island. November 29,
1909. 2 examples. Length 192 to 213 mm.

A 1106. Malayan Island. November 28,
1909. Length 255 mm.

A 853. Talissa Island. November 9, 1909.
Length 248 mm.

A 1165. Gane Road, Gillolo Island.
December 1, 1909. Length 195 mm.

A 1059. Tidore Island, Dutch East Indies.
November 24, 1909. Length 228 mm. Brown ocular
and shoulder bands. Ground color yellow,
with blue stripes, vertical stripes continuous
from gill opening to below middle of soft
dorsal, slightly vermiculated below
dorsal. Horizontal lines only on caudal
peduncle and extreme posterior body.
Lower surface of body from level of
middle of pectoral (axil to) of anal
silvery white. Base of pectoral to throat
with 3 or 4 orange and slaty stripes.

1624

Body short, robust, elongate ovate. Head large, cuboid, its surface irregular with deep grooves and depressions. Snout moderate. Eye small, high, in front half of head. Mouth large, nearly vertical, lower jaw protruded. Fine teeth in jaws, on vomer, none on palatines. Preorbital with 2 strong spines. Bones of skull very thick, top of head rough. Large quadrangular pit at occiput. Preopercle with 5 large blunt spines. Skin smooth. Dorsal continuous, with 13 stout spines and 9 soft rays, none of spines separated, fin begins behind nape. Anal short, with 3 spines and 5 rays. Caudal rounded.

Pectoral short, base broad and oblique, without free ray. Ventral with spine and 4 rays, fin moderate. 1622

Analysis of Species

a.¹ Skin papillate.

erosa.

a.² Skin smooth.

fratrum.

Erosa erosa (Cuvier)

Synanceia erosa (Langsdorf) Cuvier,
Hist. nat. Poiss., vol. 4, p. 459, pl. 96,
Nov. 1829. (type locality, Japan).
— Schlegel, Fauna Japonica, Poiss.,
pts. 2-4, p. 45, pl. 17, fig. 1, 1843
(bays near Nagasaki).

Synanchia erosa Swainson, Nat.
Hist. Animals, vol. 2, p. 268, 1839
(reference).

East Indies, Melanesia, Micronesia, Polynesia.
Very closely related to Vexatus virgatus
and only distinguished by the increased
vertical blue lines on the flanks.

Synancidium erosum Günther,
Cat. Fish. Brit. Mus., vol. 2, p. 146,
1860 (Japan). — Steindachner and
Döderlein, Denks. Akad. Wiss. Wien,
math.-naturw. Kl., vol. 49, pt. 1, p.
199, ¹⁸⁸⁵ (Tokyo; Kagoshima). — Hystrom,
Bih. K. Svensk. Vet. Akad. Handl.,
Stockholm, vol. 13, afd. 4, no. 4, p. 19,
1887 (Nagasaki). — Ishikawa
and Matsuura, Prelim. Cat. Mus.
Tokyo, p. 49, 1897 (reference). —

1314

Depth 2 to $2\frac{1}{8}$; head $3\frac{3}{5}$ to $3\frac{2}{3}$, width 2 to $2\frac{1}{8}$. Snout 2 to $2\frac{1}{10}$; eye 3 to $3\frac{3}{5}$, $1\frac{2}{5}$ to $1\frac{3}{4}$ in snout, 1 to $1\frac{1}{8}$ in interorbital; teeth ~~are~~ about 40 in each jaw; maxillary 3 to $3\frac{3}{4}$ in head; interorbital $2\frac{1}{2}$ to $2\frac{7}{8}$, broadly convex; preorbital, preopercle limb, opercle and scapular arch striate. Gill rakers 5 + 17, short, bifid, cuneate.

Scales small, ovate, cycloids, circuli fine though rather imperfect 30 to 40. Cheeks largely covered with small scales. D. XIII, 10, I, fifth spine $1\frac{3}{4}$ to $1\frac{7}{8}$ in head, fourth ray $1\frac{1}{4}$ to $1\frac{1}{2}$; A. VII, 9, I, third spine $1\frac{3}{4}$ to $1\frac{4}{5}$, third ray $1\frac{2}{3}$ to $1\frac{3}{4}$; caudal emarginated moderate or lunate, $3\frac{1}{5}$ to $3\frac{1}{2}$ in combined head and body; least depth of caudal peduncle $3\frac{2}{3}$ to $3\frac{3}{4}$ in head; pectoral 1 to $1\frac{1}{8}$; ventral $1\frac{3}{5}$ to $1\frac{3}{4}$.

Back brown, pale or light grayish below. Head above with vermiculate bluish lines, often transverse across front and sometimes may extend on opercle below; usually on opercle transverse oblique blue lines all sloping backward toward gill-opening. On side of breast number of longitudinal gray lines. On side about 30 vertical blue lines all close-set and parallel and behind longitudinal blue lines extend on caudal peduncle. Iris brownish. Fins all brownish, spinous fins with brown blotches.

1625

Erosa erosa Jordan and Starke,
Proc. U. S. Nat. Mus., vol. 27, p. 156,
fig. 16, 1904 (Mississippi). — McCulloch,
Australian Mus. Mem.; no. 5, pt. 3, p.
392, Nov. 28, 1929 (reference).

Erosa iridea Ogilby, Descr. New
Fishes of the Queensland Coast, p.
113, Dec. 20, 1910 (type locality, off
Double (Point, Islands) Queensland,
in 33 fathoms).

Erosa australiensis Borodin, Bull.
Vanderbilt Mar. Mus., vol. 1, p. 90,
1932 (type locality, Queensland).

Siganus doliatus (Valenciennes). ¹³⁹⁸

Amphacanthus doliatus Valenciennes, Hist.

Nat. Poiss., vol. 10, 1835, p. ¹³² 46. Burn and

Vanicolo. — ~~Guerin, Demog. Poiss., 1829-44,~~

~~plate 35, fig. 1 (Burn).~~

Valenciennes, Règne Animal Cuv. Poiss., Ill.,

1839, ~~plate~~ plate 71, fig. 1 (Moluccas). —

Bleeker, Nat. Tijds. Ned. Indië, deel 4, 1853,

p. (596) 605 (Ternate); l.c., deel 7, 1854, p. 361

(Batjan). — Kner, Reise Novara Fische, 1866,

p. 209 (Pugniat Island).

→ Xenthis doliata Günther, Cat. Fish. Brit.

Mus., vol. 3, 1861, p. 323 (copied). — Günther,

Journ. Mus. Godeffroy, band 2-3, heft 5-6,

1874, p. 90 (New Hebrides, Pelew Islands,

Fiji, Ponape). — Meyer, Ann. Soc. Espan. Hist.

Nat. Madrid, vol. 14, 1885, p. 21 (Rubi, New

Guinea).

(Siganus doliatus Guerin, Demog. Poiss., 1829-44,
pl. 35, fig. 1 (Burn)).

1646

Depth 2 to $2\frac{1}{8}$; head 2 to $2\frac{1}{5}$,
width 1 to $1\frac{1}{8}$. Snout $3\frac{1}{5}$ to $3\frac{1}{2}$ in
head from snout tip; eye $5\frac{1}{4}$ to
 $6\frac{2}{3}$, $1\frac{2}{5}$ to 2 in snout, $2\frac{3}{4}$
in interorbital; orbit 4 to $4\frac{1}{8}$ in
head, subequal with snout;
maxillary very oblique, $\frac{1}{4}$ to $\frac{1}{2}$
in eye, expansion 1 to $1\frac{1}{5}$ in eye,
length $2\frac{1}{8}$ in head from snout
tip; teeth villiform, in narrow
bands in jaws and on vomer;
interorbital 2 to $2\frac{1}{5}$, nearly level,
with slight median depression
for premaxillary extensions; broad,
quadrate, deep, occipital pit,
slightly greater than orbit. Gill
rakers 4 + 10, low, spinescent
tubercles, greatly lower than gill
filaments, which $1\frac{1}{4}$ in eye.
Broad thick supraorbital flange
with 4 blunt points; pair of large

blunt nuchal spines; suprascapula with small point and 2 large blunt spines above, upper or posterior much larger; 2 large, blunt preorbital spines, hind one much larger; long thick suborbital ridge; 6 large, blunt preopercular spines with small knob at outer base of uppermost; opercle with 2 slight, round knobs, one at end of each of 2 divergent ridges.

Skin all finely papillate.

Two rows of large dermal ~~channels~~ caruncles above lateral line, upper row irregular; also some widely scattered ones below lateral line, more grouped above anal edge. Tubes 11 + 2 in lateral line, rather long and slender.

D. XIII, 7, third spine $3\frac{1}{2}$ to $3\frac{3}{5}$ in total head length, third ray $2\frac{1}{5}$ to $2\frac{2}{3}$; A. III, 6, second ray

1628
 $2\frac{2}{3}$ to $2\frac{4}{5}$; caudal $2\frac{1}{10}$ to $2\frac{1}{3}$,
little convex behind, least depth of
caudal peduncle $3\frac{2}{5}$ to $4\frac{1}{3}$; pectoral
 $1\frac{1}{3}$ to $1\frac{4}{5}$, rays \pm , 14; ventral \pm , 5,
fin $2\frac{1}{4}$ to $2\frac{2}{5}$ in total head length.

Generally pale brown. Head
blotched irregularly about eye
and on opercles with darker.
Large dark blotch on front of
back and dark brown along
middle of back above on trunk.
Tail largely dark brown. Iris
gray. Mandible pale. Dorsals
light brown, with dark brown
basally. Caudal light brown,
with 1 or 2 dark brown submarginal
transverse lines, others basal.
Anal dark brown, with numerous
pale or light rounded blotches.
Pectoral pale, with several
rows of submarginal dark
rings or pale blotches, these

broken as large pale subterminal
blotch above. Ventral pale,
with pale blotches terminally.
Queensland, Japan. 1629

U. S. N. M., no. 51342. Sagami Bay.
Alan Querton. Length 75 mm.

U. S. N. M., no. 75919. Japan.
P. L. Jouy. Length 43 to 48 mm.
Two examples.

Erosa
~~Erosia~~ fratrum Ogilby

1630

~~Erosia~~

Erosa fratrum Ogilby, Proc. Roy.
Soc. Queensland, vol. 23, p. 32,
Nov. 7, 1910 (type locality, Moreton
Bay, Queensland). — McCulloch,
Australian Mus. Mem., No. 5, pt. 3,
p. 392, Nov. 28, 1929 (reference).

McCulloch and Whitley, Mem.
Queensland Mus., vol. 8, pt. 2, p.
164, July 7, 1925 (reference).

Siganus tetrazonus (Bleeker).

1397

Amphacanthus tetrazona Bleeker, Nat. Tijds.
Ned. Indië, deel 8, 1855, p. (436) 441. Manado,
Celebes.

Xenthis tetrazona Günther, Cat. Fish. Brit.
Mus., vol. 3, 1861, p. 323 (copied).

Siganus tetrazonus Jordan and Seale, Bull.
Bur. Fisher., vol. 26, 1906 (1907), p. 35 (Manila).

— Snyder, Proc. U. S. Nat. Mus., vol. 40,
1912, p. 511 (Okinawa).

Yellow, with 4 pairs of undulated
brownish bands across back.

Depth $2\frac{1}{4}$; head $2\frac{1}{8}$, snout $3\frac{1}{5}$ in head; eye $4\frac{1}{10}$, $1\frac{1}{4}$ in snout, $1\frac{4}{5}$ in interorbital; maxillary extends little beyond front eye edge, expansion $2\frac{2}{3}$ in interorbital, length $2\frac{4}{5}$ in head; interorbital $2\frac{1}{4}$, flat.

Bones of head deeply pitted, and ridged; preorbital with 3 blunt points on its front border; supraorbitals wider, forming margins of deep fossa, which contains terminal ends of premaxillary extensions; united opposite hinder half of eyes by much narrower bony bridge, which separates frontal fossa from occipital pit, which bordered behind by similar but lower ridge; parietal

armature ending 3 strong blunt knobs, middle much largest; suborbital and preopercular regions very rough, former with conspicuous hump, behind which bony area greatly expanded and fan like; preopercular border with 2 series of blunt spines, inner as 3 and outer as 5; similar spine behind mouth angle; opercle with 2 high, smooth edges, not ending in spines.

Frontal and occipital pits, cheeks, a small temporal patch and upper angle of opercle covered with smooth naked skin. Upper part of body with few small papillae. Lateral line with 10 pores.

D. XIV, 7, first spine lower than 4 succeeding and equal to middle spines, beyond which they gradually increase in height to last, which $1\frac{1}{5}$ in fifth ray, which depressed extends well beyond caudal base; A. III, 6, third spine longest, $1\frac{1}{2}$ in middle rays which just reach caudal; membrane of last dorsal ray extends to caudal that of anal not so far; caudal small, rounded; depth of caudal peduncle equals eye diameter; pectoral rays 16, basal width $1\frac{2}{3}$ its length; fifth ray reaches vent and lower rays simple; middle ventral rays equal and longest, reach more than midway to anal.

1634

Uniform dark brown above, pale brown below. Upper surface and sides of head with some scattered pearly spots. Spinous dorsal pale brown, with 1 or 2 lighter blotches. Soft dorsal dark brown, with oblique lighter band directed downwards on its anterior half. Anal and caudal yellowish brown, with black cross bars which frequently branch and cross one another so as to form lattice-work pattern, latter also with dusky base. Pectoral with basal half pale lavender, beyond which above a blackish blotch, its terminal half golden crossed by 3 narrow black bars, last marginal and inferiorly 2 inner bars anastomose like those of caudal. Length 120 mm. (Agilby.)

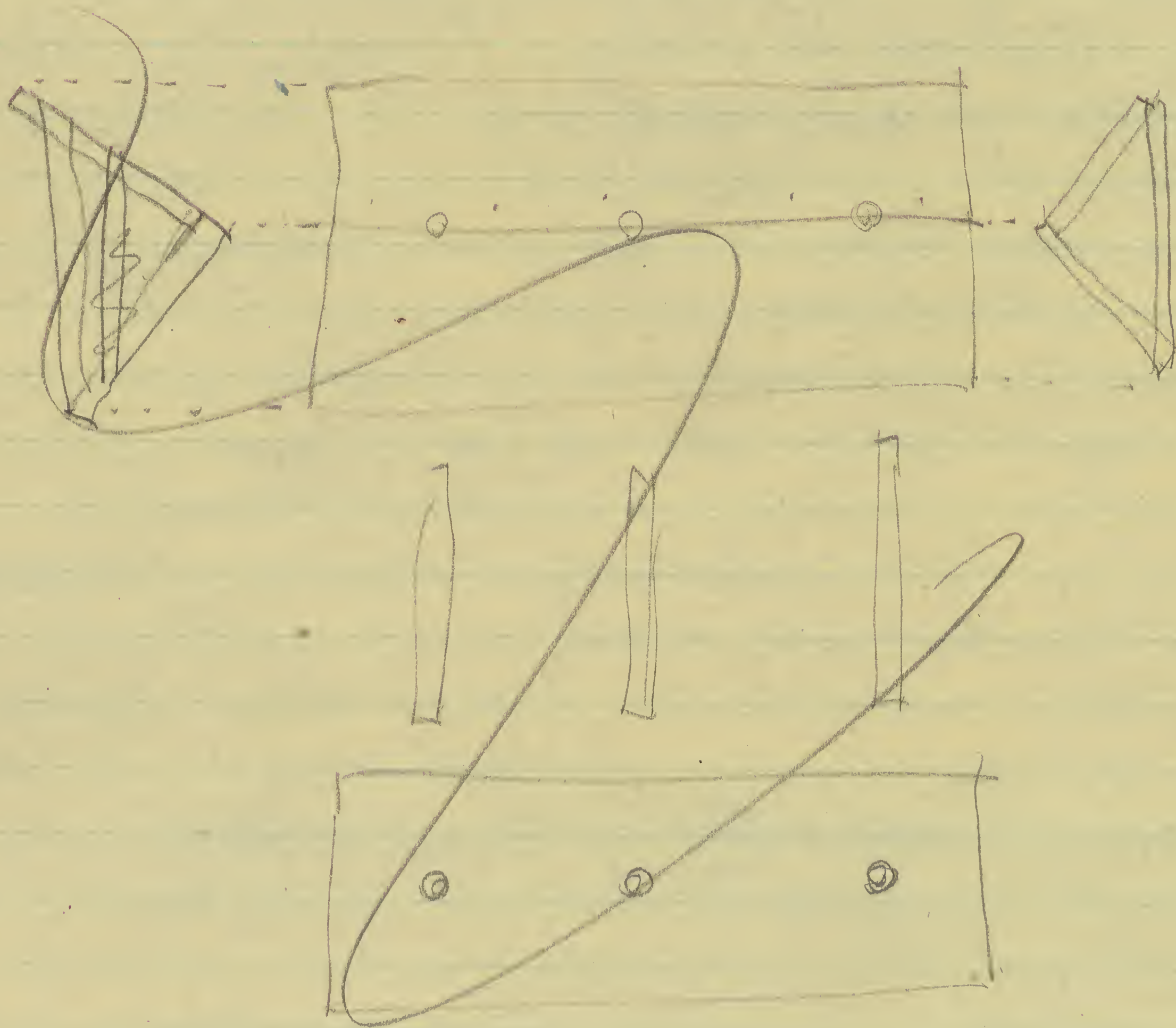
Queensland.

Genus Dampierosa Whitley

Dampierosa Whitley, Rec. Australian
Mus., vol. 18, ^{no. 6,} p. 346, 1932. (Type
Dampierosa daruma Whitley,
orthotypic.)

Distinguished from Erosa
in having the upper profile of
the head convex, the body
papillated and fewer dorsal
spines and pectoral rays.

East Indies. The coloration changes in many cases with preservation, often the blue lines turning to deep brown bands. Though quite variable in the details of the blue lines the design is quite constant.



Dampierosa daruma Whitley

Dampierosa daruma Whitley, Rec.
Australian Mus., vol. 18, ^{no. 6,} p. 346, pl.
38, figs. 2-3, ^{April 20,} 1932 (type locality,
Off Broome, north-western
Australia).

Depth $2\frac{1}{8}$; head $2\frac{1}{5}$, width
 $1\frac{1}{4}$ times head length. Snout
 $4\frac{3}{4}$ in head; eye $4\frac{2}{3}$, 1 in snout,
3 in interorbital; maxillary
reaches ~~opposite~~ ^{$\frac{1}{2}$ in} ~~head~~ eye edge,
expansion $1\frac{1}{5}$ in eye, length
 $3\frac{1}{10}$ in head; bands of villi-
form teeth in jaws, separated
at symphyses; boomerang-
shaped patch of teeth on vomer,
palatines toothless; interorbital
slopes up higher posteriorly,

1405

Depth $2\frac{1}{4}$ to $2\frac{1}{2}$; head 3 to $3\frac{4}{5}$, width $2\frac{1}{6}$ to $2\frac{4}{5}$. Snout 2 to $2\frac{1}{8}$; eye 3 to $3\frac{2}{5}$, $1\frac{1}{5}$ to $1\frac{3}{4}$ in snout, 1 to $1\frac{1}{4}$ in interorbital; teeth 30 to 32 in each jaw; maxillary $3\frac{1}{3}$ to $4\frac{1}{5}$ in head; interorbital $2\frac{7}{8}$ to $3\frac{1}{4}$, broadly convex; opercle, scapular arch and preopercle limb with striae. Gill rakers 4 + 17, short points.

Scales minute, ovoid, cycloid, circuli 60 to 90. Cheek scaled to preopercle ridge. D. XIII, 10, I, fifth spine $2\frac{1}{8}$ to $2\frac{1}{10}$ in head, fifth ray $1\frac{3}{5}$ to $1\frac{2}{3}$; A. VII, 9, I, fifth spine $1\frac{7}{8}$ to 2, second ray $1\frac{3}{5}$ to $2\frac{1}{8}$; caudal emarginate, well forked with age, $3\frac{2}{5}$ to $3\frac{4}{5}$ in combined head and body; least depth of caudal peduncle $3\frac{2}{3}$ to 5 in head; pectoral $1\frac{1}{4}$ to $1\frac{1}{3}$; ventral $1\frac{3}{5}$ to $1\frac{4}{5}$.

Back and upper surfaces brown, below gray-white to white. Brown band crosses chin, then up behind maxillary to eye and above to ^{prominent spine at} front of spinous dorsal; within its area above eye are 7 to 12 dusky, rounded, well spaced spots. Iris yellowish to olivaceous. Body with 8 longitudinal gray-blue lines in young; with age increasing to about 15, of which front ones interrupted above pectoral as obliquely vertical lines, while longitudinal lines may be broken, irregular or even waved in places. Fins all pale or dull uniform brown, paired ones, caudal and anal pale to whitish in young.

broadly convex. Gill rakers 7 or 8.

Preorbital and preopercle armed with prominent blunt spines; occipital spines blunt, almost confluent, form bony ridge each side of nape; no pit on cheek; suborbital stay coarsely striated with from median eminence; prominent knob at base of opercle; no barbels or wart-like growths on head.

Body scaleless, covered with small papillae and blunt spine-like outgrowths on nape and parts of flanks.

Body and fins covered with thick layer of mucus. Lateral line with 10 pores, indistinct posteriorly, with blunt, spine-like processes anteriorly.

D. XII, I, 9, begins over hind half of head well behind eye, first 3 spines highest but lower than soft dorsal, height of last 3 in head; A. II, 7, begins below end of spinous dorsal; caudal 2 in head, convex behind; depth of caudal peduncle $4\frac{1}{3}$; pectoral $1\frac{2}{3}$, rays 12; ventral rays I, 4.

Dark purplish brown, irregular in tone and broken up by lighter papillae and raised cephalic surfaces. Inter-orbital and pterotic regions white. Light brown mottling on lower surface of head and parts of body below spinous and soft dorsal fins. Dorsal dark brown anteriorly, mottled yellowish on middle

1639
and posterior spines. Soft
dorsal dark brownish with
narrow margin of yellow and
broad oblique median band of
yellow. Anal like soft dorsal.
Caudal dark brown, crossed
by ^{broad} band of yellowish and
with broad margin of same
color. Pectoral dark brownish,
with yellowish band partly en-
circling base, broader band
crossing rays to form large
ocelli below, and terminal
margin of yellowish. Ventral
dark brown, with 2 bands of
yellowish and similar colored
spot on basal part of last
ray. Length 98 mm. without caudal.
(Whitley.)
North western Australia.

Genus Leptosynanceia Bleeker

Leptosynanceia Bleeker, Nat. Verh.
Holland. Maatsch., Haarlem, no. 3,
vol. 2, p. 17, 1874. (Type Synanceia
astroblepa Richardson, monotypic.)

Pseudosynanceia Day, Fishes of India, Pt. 1, p.
163, 1875. (Type Pseudosynanceia melanostigma Day,
monotypic.)

Body elongately ovoid, trunk and
tail well compressed. Head large,
broad, thick. Snout short,
horizontal, broad. Eye small, high,
within first $\frac{2}{5}$ of head. Mouth
large, vertical, lower jaw protruded
vertically in front. Maxillary
vertical, not reaching eye, expanded
below. Bands of fine teeth in jaws,
none on palate or tongue. Head
without elevated crests, keels or
ridges, or deep pits or depressions.
Branchiostegals 7. Skin smooth
or only feebly papillate. Dorsal

1358

Siganus fuscus (Houttuyn).

Siganus fuscus Houttuyn, Verhand.
Holl. Maatsch. Haarlem, deel 20, 1782,
p. 333. Japan.

Amphacanthus fuscus Valenciennes, Hist.
Nat. Poiss., vol. 10, 1835, p. ¹⁵⁶115 (Japan). —
Schlegel, Fauna Jap. Poiss., dec. 7-9, 1845, p.
127, plate 68, fig. 1 (Nagasaki). — Richardson,
Ichth. China Jap., 1846, p. 244 (Canton). —
Bleeker, Verhand. Bat. Genoot. (Nal. Ichth.
Jap.), deel 25, 1853, p. 15; l.c., deel 26 (Nal.
Ichth. Jap.), 1857, pp. 5, 106 (Nagasaki). —
Bleeker, Nat. Tijds. Ned. Indië, deel 20,
1859-60, p. 235 (Nagasaki). — Van Martens,
Preuss. Exped. Ost. Asien, 1876, p. 394 (Yokohama).
Xenthis fuscus Günther, Cat. Fish. Brit.
Mus., vol. 3, 1861, p. 321 (copied). — Bleeker,
Ned. Tijds. Dierk., deel 2, 1865, p. 31 (Manila
Bay). — Klunzinger, Sitzb. Akad. Wiss. Wien,

1641

single or continuous, spinous part
begins at nape, low at first
and gradually higher to last
spine, soft fin small though
higher. Anal with 3 graduated
spines to last, soft fin higher.
Caudal convex behind. Pectoral
with broad base, reaches anal,
rays all simple. Ventral with
spine and 4 simple rays.

One species.

Leptosynanceia asteroblepa (Richardson)

Synanceia asteroblepa Richardson,
Zool. Voy. Sulphur, Fish, p. 69, pl.
39, figs. 1-3, 1844 (type locality,
Coast of New Guinea).

Synanceia astroblepa Bleeker, Nat.
 Tijds. Ned. Indie, vol. 3, p. (408) 419,
1852 (Pamangkajene); vol. 16, p. 196,
1858 (Sinkawang); Act. Soc. Sci.
Ind. Néerl., vol. 5, no. 7, p. 2, 1858.
59 (Sinkawang, Borneo). —

Gunther, Cat. Fish. Brit. Mus., vol.
2, p. 147, 1860 (reference).

Leptosynanceia astroblepa Bleeker,
Nat. Verh. Holland. Maatsch., Haarlem,
ser. 3, vol. 2, no. 3, p. 18, pl. 4, fig. 2, 1874
(Borneo; New Guinea).

Amphacanthus punctatus (non Schneider)

Rüppell, Atlas Reise nordl. Af., Fische,

1828, p. 46, plate 11, fig. 2 (Red Sea).

Amphacanthus nichalis Valenciennes,

Hist. Nat. Poiss., vol. 10, 1838, p. ¹⁴⁰~~102~~ (on

Forskäl and Rüppell).

Depth 3 in total. Caudal forked. Grayish, covered all over with brown spots, larger than interspaces. Greenish yellow spot at front of dorsal. (Günther.)

According to Klunzinger reaches 30 mm.

Leptosynanceia asteropleura Fowler,¹⁶⁴³
Mem. Bishop Mus., vol. 10, p. 298,
fig. 51, 1928 (type of Leptosynanceia
greenmani) (error).

Pseudosynanceia melanostigma
Day, Fishes of India, pt. 1, p. 163,
pl. 55, fig. 6, 1875 (type locality,
Kuvrachee, in Sind; Suppl.,
p. 788, 1888 (note)).

Leptosynanceia melanostigma
Day, Fauna of British India,
Fishes, vol. 2, p. 77, fig. 35 (copied),
1889.

Leptosynanceia greenmani Fowler,
Proc. Acad. Nat. Sci. Philadelphia,
p. 507, fig. 12, 1905 (type locality,
Baram, Borneo).

1644

Depth $3\frac{1}{4}$; head $2\frac{7}{8}$, width $1\frac{1}{8}$ times. Snout 4 in head measured from tip of upper jaw medially; eye 11, eye $3\frac{1}{4}$ in snout, 3 in interorbital; maxillary nearly vertical, reaches anterior nostril, $2\frac{1}{2}$ times eye, length 2 in head from tip of upper jaw medially; teeth minute, in rather broad bands in jaws, none on palate or tongue; interorbital $3\frac{1}{4}$, flattened gill rakers 10, small, rounded knobs, much less than eye; gill filaments $\frac{1}{2}$ interorbital. Ridges on top of head distinct, especially parietal; nuchal bone knob on side of each parietal ridge, and anterior smaller parietal knob each side; tympanic knob inconspicuous, small; 2 preorbital spines, lower much larger; 5 spines on preopercle edge, upper 2 near angle

large and conspicuous; preopercle with 2 small, blunt spines and another on cheek just below eye; opercular spines 2, superior.

Skin smooth, covered with minute papillae. In a lateral series close to and concurrent with upper profile a series of 10 short bony prickles following course of lateral line. Small papillae on spinous dorsal, where forming oblique cross series.

D. XVI, 5, seventh spine $3\frac{1}{2}$ in total head length, sixteenth spine 3, first ray $2\frac{3}{5}$; A. V, 5, third spine $3\frac{1}{2}$, third ray $2\frac{1}{3}$; caudal $1\frac{1}{2}$; least depth of caudal peduncle $3\frac{7}{8}$; pectoral $1\frac{3}{4}$, rays 14; ventral rays I, 4, fin $1\frac{3}{4}$ in total head length.

Pale brown, lower surface scarcely paler. Head finely mottled

1646

or marbled with darker brown, and back and sides with numerous, large, deep brownish blotches. Fins similarly marked and colored. Soft Dorsal, anal and caudal with conspicuous white and rather broad margins, color adjoining almost blackish but fading out to brownish ground color, though on caudal terminally darker than on other fins. Pectoral mottled with brownish, becomes blackish terminally but without white margin. Ventral pale, blotched with dusky terminally.

East Indies.

A. N. S. P., No. Baram,
Borneo. 1897. A. C. Harrison and H.
M. Miller. Length 156 mm. Type
of Leptoxynancia greenmani.
A. N. S. P., No. Baram.
1897. A. C. Harrison and H. M. Miller. Length
mm. Paratypes of L. greenmani.

1647

Genus Trachicephalus Swainson

Trachicephalus Swainson, Nat.
Hist. Animals, vol. 2, p. 268, 1839.
(Type Synanceia elongata Cuvier,
monotypic.) (Trachycephalus
Swainson in reptiles 1838 not
involved.)

←

Polycaulus Günther, Cat. Fish. Brit. Mus., vol. 2, p. 175, 1860. (Type Synanceia elongata Cuvier, monotypic.)

Polycaulis Day, Fishes of India, pt. 1, p. 163, 1875. (Type Synanceia elongata Cuvier.)

Uranoblepus Gill, Cat. Fish. East. Coast of North America, p. 5, 1861. (Type Synanceia elongata Cuvier, virtually, as Uranoblepus Gill proposed to replace Trachicephalus Swanison.)

1121

of Zanzibar, 1866, p. 57 (Zanzibar). —
Meyer, Ann. Soc. Espan.^{na} Hist. Nat. Madrid,
vol. 14, 1885, p. 24 (Fernate).

Harpurus rhombus Bleeker, Ned. Tijds. Dierk.,
deel 1, 1863, p. 271 (Atafupu, Timor). —

Bleeker, Verslag. Akad. Wet. Amsterdam,
deel 16, 1864, p. 365 (Koupa Laut, Moluccas);
deel ^{ser.} 2 (2), 1868, p. 272 (Guebe, Moluccas).

Zebrasoma rhombum Jordan and Seale, Bull.
Bur. Fisher., vol. 26, 1906 (1907), p. 34 (Panay).
— Jordan and Richardson, L. C., vol. 27, 1907
(1908), p. 270 (Cagayanillo).

Acanthurus scopas Valenciennes, Hist. Nat.

Pois., vol. 10, 1835, p. ²⁴⁵~~782~~, plate 290. Dorey

Harbour, New Guinea; Mauritius; Ulea. —

Bleeker, Ned. Tijds. Ned. Indie, deel 2, 1851,
p. 228 (Banda, heira), p. 348 (Larantuka
straits, Solor); deel 5, 1853, p. 68 (Solor), pp.
319, 320 (Amboina); deel 6, 1854, p. 90 (Banda,
heira), p. 313 (Larantuka, Floris Island);

Body elongately ovoid, anteriorly subcylindrical, posteriorly well compressed. Head small, broad, somewhat depressed. Snout short, horizontal or scarcely inclined in profile. Eye premedian, high, small, directed upward. Mouth subvertical, with mandible well protruded. Maxillary large, nearly vertical, not reaching eye, expanded below. Villiform teeth in jaws, none on palate. Armature of head low, little conspicuous. Preopercle armed. Gill opening with a superior as well as posterior orifice, the two continuous. Branchiostegals 7. No scales. Vertical fins more or less enveloped in skin. Articulated fin rays unbranched. Single dorsal with flexible spines and rays. Anal somewhat elongate.

1650

Caudal small, rounded. Pectoral moderate, broad, without detached rays. Ventral thoracic, joined to abdomen along its inner edge.

One species. The name Trachicephalus was rejected and substitutes proposed at nearly the same time by Günther (late in 1860) and Gill (early in 1861) because of the similarity of Trachicephalus and Trachycephalus. The two, however, are etymologically distinct, the one referring to the rough head (τραχύς, rough) and the other to the similarity of the head to that of a Trachinus. Swainson expressly declaring that "Trachicephalus" has the "shape" and general aspect of Trachinus. In other terms the two names are as distinct as macrocephalus and microcephalus, which have opposite meanings. Trachicephalus is therefore retained.

Tachicephalus

1651

Polyscaulus uranoscopus (Schneider)

Synanceja uranoscopa Schneider,
Syst. Ichth. Bloch, p. 195, 1801 (type
locality, Tranquebar).

Synanceia uranoscopa Schneider,
op. cit., p. xxxviii (name in synopsis).
— Cuvier, Hist. Nat. Poiss., vol. 4, p.
458, 1829 (copied). — Bleeker,
Verh. Batavia. Genoot. Thal. Ichth.
Bengal), vol. 25, p. 36, 1853 (reference).

Polyscaulus uranoscopus Day, Fishes of
India, pt. 1, p. 164, pl. 39, fig. 6, 1875
(type); Fauna of British India,
Fishes, vol. 2, p. 78, fig. 36, 1889.

1119

Zebrasoma gemmatum (Valenciennes).
Acanthurus gemmatus Valenciennes, List.
Nat. Poiss., ^{vol} ~~time~~ 10, 1835, p. ²⁵⁵ 188. Mauritius.
— Günther, Cat. Fish. Brit. Mus., vol. 3,
1861, p. 343 (copied).

Depth $2\frac{1}{5}$ in total. Front with weakly sigmoid profile. Eye scarcely above middle in head depth. Teeth 14 in each jaw, oval, well serrated. Scales minute. D. IV, 28, spines strong. A. III, 24, spines strong. Dorsal and anal moderately elevated, half body depth. Caudal truncate. Brown, marked everywhere with small white spots, somewhat in longitudinal rows on body. Caudal yellow, without dots. Length 101 mm. (Valenciennes.)

Differs from Zebrasoma veliferum in the different color pattern, the body marked with small white-dots.

Nynanceia elongata Cuvier, Hist. nat.
Poiss., vol. 4, p. 456, 1829 (type locality,
 Coast of Coromandel). — Guerin,
Icon. Règne Animal, pl. 15, fig. 3,
 18

— Bleeker, Verh. Batavia. Genoot.
(Perc.), vol. 22, p. 10, 1849 (Batavia);
(hal. Ichth. Bengal), vol. 25, p. 36, 1853
(reference); nat. Tijds. Ned. Indie,
 vol. 20, pp. 216, ^{237, 449,} 1859-60 (Singapore);
 vol. 21, p. 137, 1860 (Muntok, Banka).
Act. Soc. Sci. Ind. Neerl., vol. 1, no. 5, p.
 74, 1856 (Amboina).

1117

A 881. Rumbek Strait, Celebes.
November 10, 1909. Length 180 mm.

21294 U.S.N.M. No locality. Length
183 mm. As Zebrasoma rüppellii.

30588 U.S.N.M. New Guinea. Australian
Museum. Length 163 mm.

30606 U.S.N.M. New Guinea. Australian
Museum. Length 185 mm.

52350 U.S.N.M. Apia, Samoa. Bureau
of Fisheries. Length 58 to 260 mm. 3 examples.

52745 U.S.N.M. Hawaiian Islands.
Bureau of Fisheries 1901-1902. Length 285 mm.

55332 U.S.N.M. Honolulu reef. Albatross
Collection. Length 119 to 125 mm. 2 examples.

55546 U.S.N.M. Hawaiian Islands.
Length 102 to 112 mm. 2 examples.

1653

Trachicephalus elongatus Swainson,
Nat. Hist. Animals, vol. 2, p. 268, 1839
(on Cuvier).

Polycanlus elongatus Günther, Cat.
Fish. Brit. Mus., vol. 2, p. 175, 1860
(Java, Madras, India, Pinang, China).
— Bleeker, Nat. Verh. Holland. Maats.
Haarlem, ser. 3, vol. 2, no. 3, p. 20, pl. 2,
fig. 1, 1874 (Singapore, Pinang, Banca,
Java, Amboina).

ventral lemon yellow, becoming blackish toward margin.

7310. Sablayan Bay, Mindoro.

December 12, 1908. Length 298 mm.

6904. Santo Domingo, Batan. November 7, 1908. Length 290 mm.

5826. Taitubada Port. May 15, 1908. Length 223 mm.

7179 and 7185. West coast of Palani Island. November 18, 1908. Length 200 to 220 mm.

6958. West coast of Sabtan Island. November 8, 1908. Length 250 mm.

8726. Yana River, Caracaran, Batan Islands. June 8, 1909.

1654

Uranoscopus indicus (Luhl and Van
Hasselt) Cuvier, Hist. Nat. Poiss.,
vol. 4, p. —, 1829 (type locality, Java).

Vynanceia breviceps Richardson,
Zool. Voy. Sulphur, Fish, vol. 1, p.
71, 1844 (type locality, China Seas).

Uranoscopus adhesipinnis Blyth,
Journ. Asiatic Soc. Bengal, p.
142, 1862 (type locality,

22902 [491]. Rombon reef. March
 25, 1908. Length 64 mm. Sides barred
 with dark olive green and lemon yellow
 alternately; dark bars fading resolve
 into 2 brownish bars with pale
 central dividing line; postocular and
 next of yellow bars margined with
 white below; posteriorly yellowish
 bars become narrower or even obsolete
 on caudal peduncle; head and front
 of ocular band dusky lemon yellow,
 breast brighter. Dorsal and anal
 like darker body color, bars obsolete;
 on hind part of dorsal about 4 pale
 lines; vertical edges of both fins
 white. Caudal peduncle black. Caudal
 dusky hyaline, lemon yellow at base

Polyscaulus uranoscopus Fowler, ¹⁶⁵⁵Proc.
Acad. Nat. Sci. Philadelphia, vol.
87, p. 153, 1935 (Bangkok).

Trachicephalus uranoscopus Fowler,
Proc. Acad. Nat. Sci. Philadelphia,
vol. 81, p. 613, 1929 (Hong Kong).

65393 U.S.N.M. Rikitea, Mangareva.
Albatross Collection. Length 145 mm.

66084 U.S.N.M. Fakaa, Society Islands.
Albatross Collection. Length 227 to 252 mm.
2 examples.

82944 U.S.N.M. Samoa. Wilkes Exploring
Expedition. Length 68 mm.

Gnathacanthidae

Eyes near terminal upper part of preopercular bones, elevated. Proscapular bones greatly inclined back. Pectoral comparatively narrow, with small base. Ventral subbrachial.

The Congiopodidae and Pataceidae agree in the simple rayed pectoral, advanced first dorsal and position of the eyes. Gill says "Notwithstanding Bleeker's remarks, I must regard it as doubtful whether the normal cataphract

1657
structure is manifest, that
is, whether the third suborbital
is developed as a stay."

Genus Gnathanacanthus Bleeker ¹⁶⁵⁸

Gnathanacanthus Bleeker, Verh.
Kon. Akad. Wet. Amsterdam, vol. 2,
~~1854~~, ~~1855~~, p. 21, 1855. (Type
Gnathanacanthus goetzeei Bleeker,
orthotypic.)

Gnathanacanthus Bleeker, op. cit.,
p. ("verklaring der afbeeldingen")
opposite plate, 1855. (Type
Gnathanacanthus goetzeei Bleeker.)

Holoxenus Günther, Ann. Mag.
Nat. Hist., London, ser. 4, vol. 17,
p. 393, May 1, 1876. (Type
Holoxenus cutaneus Günther, monotypic.)

Beridia Castelnau, Proc. Linn. Soc.
New South Wales, vol. 2, pt. 3, p. 229,
May 1878. (Type Beridia flava
Castelnau, monotypic.)

1393

Siganus rivulatus (Forskål).

Siganus rivulatus Forskål, Descript. Animal.,
1775, pp. x, 25. Arabia.

Siganus siganus Forskål, l.c., p. 25. Arabia.
(Alternate name for Siganus rivulatus). —

Bonnaterre, Tabl. Ichth., 1788, p. 94 (Red
Sea).

Amphacanthus siganus Rüppell, Atlas
Reise. nördl. Afr. Fische., 1828, p. 44, plate 11,
fig. 1 (Tor). — Rüppell, Neue Wirbelth.
Fische., 1839, p. 130. — Valenciennes, Hist.
Nat. Poiss., vol. 10, 1835, p. 44⁵² (Suez, Tor,
Massarah). — Weber, Siboga Exped., band
65⁵⁷, 1913, p. 327 (Bima and Sian).

Amphacanthus sigan Klunzinger, Verh.
zool. bot. Ges. Wien, band 21, 1871, p. 502 (Red
Sea).

Genthis sigana Günther, Cat. Fish. Brit.
Mus., vol. 3, 1861, p. 322 (copied).

Body oblong, compressed. Head large, compressed, triangular in front. Snout long. Eye small, high, in front half of head. Mouth small, lower jaw protruded. Maxillary not reaching eye, expanded behind. Teeth in villiform bands in jaws. Gill openings wide. Gills 4, with cleft behind fourth. Pseudobranchiae present. Skin loose, finely granular or with minute scales. Lateral line continuous, axial. Dorsals continuous, though deep notch separating anterior spinous portion. Anal with 3 spines, like second dorsal and opposite. Caudal rounded. Pectoral moderate, rounded. Ventral small.

Victoria and Tasmania.

Gnathanacanthus goetzeei Bleeker

Gnathanacanthus goetzeei Bleeker,
Verh. Kon. Akad. Wet. Amsterdam,
vol. 12, ~~Wet.~~ p. 21, 1855 (type locality,
Tasmania) pl. fig. 1,

— Waite, Rec. South Austral. Mus.,
vol. 2, no. 1, p. 171, fig. 280, April 23,
1921.

— McCulloch, Austral. Mus. Mem.,
no. 5, pt. 3, p. 398, no. 28, 1929
(reference).

1392

71588. U.S.N.M. Kafa, Okinawa, Riu
Kiu Islands. 23 examples. Length 45 to 58 mm.
Albatross Collection 1906. As Viganus
teirazonus.

71920. U.S.N.M. Kafa. Albatross Collection.
Length 167 mm.

72009. U.S.N.M. Japan. Bureau of Fisheries.
2 examples. Length 82 mm.

82911 U.S.N.M. Fiji. Wilkes Exploring
Expedition. Length 85 to 150 mm. 4 examples.

83255 U.S.N.M. No locality. Wilkes
Exploring Expedition. Length.

Gnath anacanthus goetzi Gill,
Proc. U. S. Nat. Mus., vol. 14, p.
701, fig. 1891 (discussion of
synonymy).

1662

Holoxenus rutaneus Günther,
Ann. Mag. Nat. Hist., London,
ser. 4, vol. 17, p. 393, 1876 (type
locality, Tasmania). —
Macleay, Proc. Linn. Soc. New
South Wales, vol. 5, p. 438,
1881 (copied).

Baridida flava Castelnau, Proc.
Linn. Soc. New South Wales, vol. 2,
p. 229, 1878 (type locality, Portland
Bay, on the Western Coast of the
Colony of Victoria). — Macleay,
op. cit., p. 592, 1881 (reference).

Baridida flava Castelnau, l.c.,
pl.

Holoxenus güntneri Johnson, Proc.
Roy. Soc. Tasmania, p. 115, 1882
(1883) (type locality, Tasmania).

Depth $2\frac{3}{4}$; head $2\frac{1}{4}$. Snout
 $2\frac{9}{10}$ in head ^{from snout tip}; eye $5\frac{2}{5}$, $1\frac{7}{8}$ in
 snout; maxillary reaches $\frac{3}{4}$ to
 eye, expansion $1\frac{1}{4}$ in eye,
 length 3 in head from snout
 tip; interorbital moderately
 high. D. XII, 11, origin over
 # eye, third spine $1\frac{4}{5}$ in total
 head length, eighth and ninth
 spines shortest or $1\frac{1}{3}$ in eye,
 last spine 3 in total head
 length, fifth ray $1\frac{2}{3}$; A. III, 9,
 third spine $2\frac{1}{3}$, fourth ray
 $1\frac{2}{3}$; caudal $1\frac{2}{5}$, convex behind,
 least depth of caudal peduncle
 $4\frac{1}{3}$; pectoral $1\frac{1}{3}$, rays 11;
 ventral rays I, 5, fin $1\frac{7}{8}$ in head.

Brownish red. (Bleeker.)

Tasmania, Victoria. Its
 color has been described as
 whitish in spirits or deep orange
 when fresh, or as "a uniform

deep purple, sometimes more
or less marbled with yellow,
which probably changes to
white in spirits." Reaches
250 mm.